10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

JMJD1C Antibody

Catalog # ASC10968

Product Information

Application	WB, IF, E, IHC-P
Primary Accession	Q15652
Other Accession	NP_116165, 118600981
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Calculated MW	284525
Concentration (mg/ml)	1 mg/mL
Conjugate	Unconjugated
Application Notes	JMJD1C antibody can be used for detection of JMJD1C by Western blot at 1 - 2 g/mL. Antibody can also be used for immunohistochemistry starting at 2.5 g/mL. For immunofluorescence start at 20 g/mL.

Additional Information

Gene ID	221037
Other Names	Probable JmjC domain-containing histone demethylation protein 2C, 1.14.11.-, Jumonji domain-containing protein 1C, Thyroid receptor-interacting protein 8, TR-interacting protein 8, TRIP-8, JMJD1C, JHDM2C, KIAA1380, TRIP8
Target/Specificity	JMJD1C; This antibody will not cross-react with JMJD1A or JMJD1B.
Reconstitution & Storage	JMJD1C antibody can be stored at 4℃ for three months and -20℃, stable for up to one year. As with all antibodies care should be taken to avoid repeated freeze thaw cycles. Antibodies should not be exposed to prolonged high temperatures.
Precautions	JMJD1C Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	JMJD1C (HGNC:12313)
Function	Demethylates lysine in proteins, such as STAT3 or MDC1 (By similarity) (PubMed:24240613). Demethylates MDC1, thereby promoting MDC1-RNF8 interaction and facilitating RNF8-dependent MDC1 ubiquitination essential for double-strand break (DSB) repair (PubMed:24240613). Demethylation of STAT3 at 'Lys-140' facilitates its interactions with the phosphatase PTPN6 and restrains STAT3 activation (By similarity). It is uncertain whether JMJD1C removes methyl groups from histone proteins as the other JMJD1/KDM3 proteins do (PubMed:23593242, PubMed:24240613, PubMed:32034158).

	Nevertheless, JMJD1C may act as a context-specific histone demethylase. Implicated in lipogenic gene transcription in the liver, where USF1 recruits JMJD1C to lipogenic promoters in response to insulin or feeding stimuli, thereby potentially promoting H3K9me2 demethylation and enhancing chromatin accessibility (PubMed:32034158). Post-translational modifications may regulate JMJD1C's enzymatic activity, contributing to its context-specific functions (PubMed:32034158). Alternatively, JMJD1C may influence chromatin regulation indirectly, acting as a scaffold or co-regulator that recruits or stabilizes other active demethylase complexes modifying histone marks (PubMed:24240613). Plays an indispensable role in spermatogenesis (By similarity).
Cellular Location	Nucleus

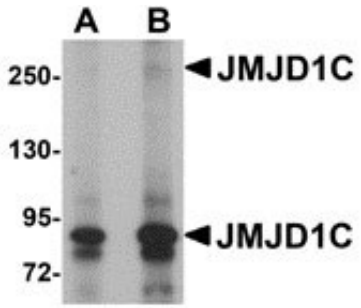
Background

JMJD1C Antibody: The jumonji domain containing 1C protein (JMJD1C) was initially discovered in silico, and later suggested to be a candidate gene for autism. Like the related proteins JMJD1A and JMJD1B, JMJD1C is a histone H3K9 demethylase implicated in the nuclear hormone receptor-based transcriptional regulation. JMJD1C mRNA is highly expressed in undifferentiated embryonic stem (ES) cells as well as pancreatic islet, diffuse-type gastric cancer, and other tissues and tumors. The JMJD1C gene promoter contain bHLH-, AP-1-, and POU5F1-binding sites, and as preferential expression of POU5F1 has been reported in ES cells, pancreatic islet, and diffuse-type gastric cancer, it has been suggested that POU5F1-mediated expression of JMJD1C reactivates previously silenced genes in ES cells and diffuse-type gastric cancer. At least three isoforms of JMJD1C are known to exist.

References

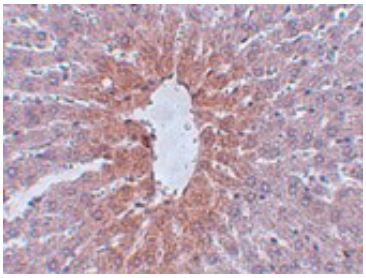
Katoh M and Katoh M. Identification of TRIP8 gene in silico. Int. J. Mol. Med.2003; 12:817-21.
Castermans D, Vermeesch JR, Fryns JP, et al. Identification and characterization of the TRIP8 and REEP3 genes on chromosome 10q21.3 as novel candidate genes for autism. Eur. J. Hum. Genet.2007; 15:422-31.
Katoh M and Katoh M. Comparative integromics on JMJD1C gene encoding histone demethylase: Conserved POU5F1 binding site elucidating mechanism of JMJD1C expression in undifferentiated ES cells and diffuse-type gastric cancer. Int. J. Oncology2007; 31:219-23.
Katoh Y and Katoh M. Conserved POU-binding site linked to SP1-binding site within FZD5 promoter: transcriptional mechanism of FZD5 in undifferentiated human ES cells, fetal liver/spleen, adult colon, pancreatic islet, and diffuse-type gastric cancer. Int. J. Oncol.2007; 30:751-5.

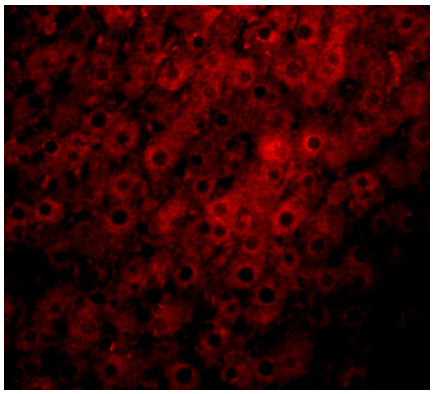
Images



Western blot analysis of JMJD1C in human liver tissue lysate with JMJD1C antibody at (A) 1 and (B) 2 µg/mL.

Immunohistochemistry of JMJD1C in rat liver tissue with JMJD1C antibody at 2.5 µg/mL.





Immunofluorescence of JMJD1C in rat liver tissue with JMJD1C antibody at 20 µg/mL.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.